



# WATERBOY 2™

## Micro-Processor Based Portable Moisture Analyzer

Industrial Gas

Electronic Gas

Natural Gas

Medical & Aviation

Aerospace & Military

Specialty Gases

### Micro-Processor Based Simplicity

The Portable Moisture Measurement Solution. The MEECO WaterBoy 2 offers a cost effective solution for reliable, portable moisture analysis. Utilizing our time- proven electrolytic technology, it features new micro- processor driven electronics. The simplicity of the WaterBoy 2's three-button interface makes changing display options effortless. Now, with the push of a button, you can select from five different display options.

Its modular design and sturdy construction is ideal for field conditions. The WaterBoy 2 is equipped with an internal 24 VDC lead acid rechargeable battery, in addition to a 110 VAC transformer. And, with the optional RS-232 port, you can send data to a printer, a computer or other control device.

### WaterBoy 2 Key Features Include:

- ☑ **Stable Value Indication / Low Battery Indication**
- ☑ **Units of Measure:** Micro-processor based electronics allow choice of display options including ppmV, ppmW, lbs/mmscf, or °C and °F dewpoint.
- ☑ **Three-Button User Interface:** Mode/Enter key, along with simple Up and Down keys, make using the menu quick and simple.
- ☑ **LCD Display:** Integral digital display allows direct indication at point of use, and quick field configuration of the control parameters. Also includes low battery indicator light.
- ☑ **Scalable Output:** Flexibility to change output scales in field. No need to replace electronic components. Simply access menu via Mode/Enter key and select output scale.
- ☑ **On-line Verification:** Use simple Delta Flow procedure to quickly verify sensor linearity and performance on-line.
- ☑ **Approvals:** FM Approved Class 1 Division 2, Non-incendive. The Electrolytic Technology is specified by the European Pharmacopoeia for moisture analysis in medical gases.



# WaterBoy 2

## Micro-Processor Based Portable Moisture Analyzer

<b>Performance</b>	<b>WaterBoy 2</b>
Operating range (1 ppmV LDL)	0—1000 ppmV with 0.1 ppm resolution (100cc flow tmts) 0—5000 ppmV with 1 ppm resolution (10cc flow units)
Accuracy (greater of)	±5% of reading or 0.4 ppm, whichever is greater **
Operating Temperature	-20°C to +60°C (-4°F to 140°F)
User Interface	3-key touch pad
Display	1 line, 16 character alphanumeric LCD 3/8" high digits
Display Options	ppmV, ppmW (requires user input of molecular weight), °C and °F dewpoint and lbs/mmscf (Note: °C and °F dewpoint is referenced to atmospheric pressure. Pressure dewpoint available with user input of operating pressure).
<b>Gas Handling System and Conditions</b>	
Gas connections	1/8" Compression (consult factory for gas compatibility)
Inlet pressure	50-3000 psig
Flow rate	Sample: 10 sccm or 100 sccm Bypass: 1000 sccm
<b>Dimensions</b>	<b>H x W x D [in (mm)]</b>
	12" (30.5cm) x 8 3/4" (22.2cm) x 6 1/4" (15.9cm)
<b>Weight</b>	
Unit Weight	17 lbs. (7.7 kg)
<b>Electrical</b>	
Alarm indicators	0-1 VDC output into 2k ohms or greater (standard). Field range programmable Isolated RS232 (optional). Reduces battery operation time by 50%. (Not FM approved)
Power requirements	Internal 24 VDC lead acid rechargeable battery with a 2.6 amp hour rating (suitable for 5-day typical operation at room temperature) External 24 VDC MEECO supplied 110 VAC wall transformer. (Unit can be operated while charging) Optional external 24 VDC ±10% 1/2 amp maximum power supply (customer supplied)

\*\*in pure O<sub>2</sub>: ± 10% of reading/3 ppm, whichever is greater

### Principle of Operation

Based on Faraday's Law of Electrolysis, the WaterBoy 2's sensor absorbs and electrolyzes moisture to fractional parts-per-million (ppm). One hundred percent of the sample moisture is absorbed by a hygroscopic film that covers two spiral wound electrodes embedded in a hollow glass tube. When the sample gas enters the cell at a known flow rate, the phosphorus pentoxide (P<sub>2</sub>O<sub>5</sub>) film absorbs all the moisture molecules present. By applying an electrical potential (voltage) to the electrodes, each absorbed water molecule is electrolyzed, generating a finite current. This current is precise and proportional to the amount of absorbed water.

**The Trusted Name In Moisture Analysis.** Founded in 1948, MEECO specializes in moisture analyzers used in facilities around the world. We tackle the tough problems, such as natural gas pipelines, where instruments are often subject to physical abuse, corrosives and serious contaminants. We're proud to report, the MEECO name is synonymous with moisture analysis.

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